In re Patent Application of:
MORRISSETTE ET AL.
Serial No. **10/675,142**
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In the Claims:

Claims 1-47 (CANCELLED)

48. (CURRENTLY AMENDED) An ignition system for a vehicle comprising:

an ignition coil having primary and secondary windings for generating high voltage signals to spark plugs;

an electronic control assembly (ECA);

a distributor having an armature and shaft assembly mounted therein that ~~generates~~ generate a signal indicative of crankshaft position and engine RPM to said electronic control assembly (ECA); and

an ignition module mounted on the distributor for receiving a signal from the electronic control assembly (ECA), said ignition module including a microprocessor for generating a control signal to the ignition coil and switching ON and OFF the primary current therein and reducing the duty cycle as applied to the control signal from the ignition module to the ignition coil and reducing the heat generated when a temperature threshold for the ignition module has been exceeded.

49. (CANCELLED)

50. (ORIGINAL) An ignition system according to claim 48 wherein the microprocessor is operative for reducing the duty cycle from about 5% to about 15%.

51. (ORIGINAL) An ignition system according to claim 48 and further comprising a temperature sensing circuit operative with the microprocessor for establishing a temperature control signal that is linear with temperature change in the ignition module.

52. (ORIGINAL) An ignition system according to claim 48 wherein the microprocessor is operative for determining a timing interval for switching ON and OFF the primary current within the ignition coil.

53. (ORIGINAL) An ignition system according to claim 48 wherein the microprocessor within the ignition module is operative for determining when an engine threshold has been exceeded by sensed processing engine operating parameters.

54. (ORIGINAL) An ignition system according to claim 48 wherein the microprocessor within the ignition module is operative for reducing the duty cycle after the temperature threshold has been exceeded and when the engine RPM of the vehicle has dropped below a predetermined number.

55. (CURRENTLY AMENDED) A distributor for a vehicle comprising:

a distributor base <u>having an armature and shaft assembly mounted therein</u> and circuit generating a signal indicative of crankshaft position and engine RPM to an electronic control assembly (ECA) used on the vehicle; and

an ignition module <u>mounted on the distributor base</u> that receives a signal from the electronic control assembly (ECA),

said ignition module including a microprocessor for generating a control signal to an ignition coil and switching ON and OFF the primary current therein, and reducing the duty cycle as applied to the control signal from the ignition module to the ignition coil for reducing the generated heat by the ignition module when a temperature threshold for the ignition module has been exceeded.

56. (CANCELLED)

57. (ORIGINAL) A distributor according to claim 55 wherein the microprocessor is operative for reducing the duty cycle from about 5% to about 15%.

58. (ORIGINAL) A distributor according to claim 56 wherein and further comprising a temperature sensing circuit operative with the microprocessor that is linear with temperature change in the ignition module.

59. (ORIGINAL) A distributor according to claim 55 wherein the microprocessor is operative for switching ON and OFF the primary current within the ignition coil.

60. (ORIGINAL) A distributor according to claim 55 wherein the microprocessor within the ignition module is operative for reducing the duty cycle after the temperature threshold has been exceeded and when the engine RPM of the vehicle has dropped below a predetermined number.

61. (CURRENTLY AMENDED) An ignition system for a vehicle comprising:

an ignition coil having primary and secondary windings for generating high voltage signals to spark plugs;

an electronic control assembly (ECA);

an ignition module including a microprocessor for generating a control signal to the ignition coil and switching ON and OFF the primary current therein and reducing the duty cycle as applied to the control signal from the ignition module to the ignition coil and reducing the heat generated when a temperature threshold for the ignition module has been exceeded, wherein the microprocessor is operative for reducing the duty cycle from about 5% to about 15%.

62. (CANCELLED)

63. (ORIGINAL) An ignition system according to claim 61 and further comprising a temperature sensing circuit for establishing a temperature control signal to the microprocessor that is linear with temperature change in the ignition module.

64. (ORIGINAL) An ignition system according to claim 61 wherein the microprocessor within the ignition module is operative for reducing the duty cycle after the temperature threshold has been exceeded and when the engine RPM of the vehicle has dropped below a predetermined number.

65. (ORIGINAL) An ignition system for a vehicle comprising:

an ignition coil having primary and secondary windings for generating high voltage signals to spark plugs;

an electronic control assembly (ECA);

a distributor including a Hall Effect stator assembly mounted therein that generates a signal indicative of crankshaft position and engine RPM to said electronic control assembly (ECA); and

an ignition module for receiving the signal from the electronic control assembly (ECA) indicative of crankshaft position and engine RPM, said ignition module including a microprocessor for generating a control signal to an ignition coil and switching ON and OFF the primary current therein and reducing the duty cycle as applied to the control signal from the ignition module to the ignition coil and reducing the heat generated when a temperature threshold for the ignition module has been exceeded.

66. (ORIGINAL) An ignition system according to claim 65 and further comprising an armature and shaft assembly mounted within the distributor, wherein said ignition module is mounted on the distributor.

67. (ORIGINAL) An ignition system according to claim 65 wherein the microprocessor is operative for reducing the duty cycle from about 5% to about 15%.

68. (ORIGINAL) An ignition system according to claim 65 and further comprising a temperature sensing circuit for establishing a temperature control signal to the

microprocessor that is linear with temperature change in the ignition module.

69. (ORIGINAL) An ignition system according to claim 65 wherein the microprocessor within the ignition module is operative for reducing the duty cycle after the temperature threshold has been exceeded and when the engine RPM of the vehicle has dropped below a predetermined number.

Please add new claims 70 and 71 as follows:

70. (NEW) An ignition system for a vehicle comprising:

an ignition coil having primary and secondary windings for generating high voltage signals to spark plugs;

an electronic control assembly (ECA);

a distributor that generates a signal indicative of crankshaft position and engine RPM to said electronic control assembly (ECA); and

an ignition module for receiving a signal from the electronic control assembly (ECA), said ignition module including a microprocessor for generating a control signal to the ignition coil and switching ON and OFF the primary current therein and reducing the duty cycle from about 5% to about 15% as applied to the control signal from the ignition module to the ignition coil and reducing the heat generated when a temperature threshold for the ignition module has been exceeded.

71. (NEW) A distributor for a vehicle comprising:

a distributor base and circuit generating a signal indicative of crankshaft position and engine RPM to an electronic control assembly (ECA) used on the vehicle; and

an ignition module that receives a signal from the electronic control assembly (ECA), said ignition module including a microprocessor for generating a control signal to an ignition coil and switching ON and OFF the primary current therein, and reducing the duty cycle from about 5% to about 15% as applied to the control signal from the ignition module to the ignition coil for reducing the generated heat by the ignition module when a temperature threshold for the ignition module has been exceeded.